



# UNITED STATES PATENT AND TRADEMARK OFFICE

*cm*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,741	07/06/2005	Chan-Yong Park	11281-074-999	9837
20583	7590	04/30/2007		
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			EXAMINER BEDTELYON, JOHN M	
			ART UNIT	PAPER NUMBER
			2874	
			MAIL DATE	DELIVERY MODE
			04/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/541,741

Applicant(s)

PARK ET AL.

Examiner

John M. Bedtelyon

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



KEVIN WOOD  
PRIMARY PATENT EXAMINER

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/06/05, 10/24/05, 11/23/05.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "coating layer coated on the surfaces of the protrusion and the protective layer" (claim 3) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

Art Unit: 2874

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The coating layer coated on the surfaces of the protrusion and the protective layer isn't described well enough in the specification and isn't shown in the drawings to enable one to coat both the protrusions and the protective layer. The drawings simply show a coating layer underneath the protrusions and the specification doesn't elaborate on the process or structure.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "the coating layer coated on the surfaces of the protrusion and the protective layer" seems to directly contradict what is shown in applicant's figures.

7. Claims 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The relationship of the first and second steps in claim 12 is unclear. It's not clear if the forming of a protrusion results in the passing the optical fiber through the extrusion die or if it's a separate step. The claim is for a method of manufacturing an optical fiber perform for air blown installation, but the first step includes passing an optical fiber, it's not clear where the optical fiber came from.

#### ***Claim Objections***

8. Claims 12 and 17 are objected to because of the following informalities:

Claim 12: hollow extrusion dice should read hollow extrusion die;

The last two words of the claim, "so that", imply that there should be more to the claim.

Claim 17: The limitation "supplying polymer resin through a nozzle **on** the outer surface" (emphasis added) is unclear in that it could mean the nozzle is on the surface of the optical fiber, or that the resin is deposited onto the fiber. For purposes of this

Art Unit: 2874

examination it is interpreted that the nozzle supplies polymer resin onto the surface of the fiber.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Pasch et al. (US Patent 6,404,972, hereinafter Pasch).

**With respect to claims 1, 2 and 5, Pasch teaches:**

An optical fiber (1) having a core layer (2) and a clad layer (3);

A protective layer (4) coated on the surface of the fiber;

A protrusion (5) made of a polymer resin (column 2, lines 60-63 and column 3, lines 55-57) formed on the outer surface of the protective layer in a banded shape, wherein the protrusion is formed discontinuously and the protrusion has a sectional shape of an arc (see figure 1).

11. Claims 1, 4, 6, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Masahiro (JP2001021781, hereinafter Masahiro).

**With respect to claim 1, Masahiro teaches:**

At least one optical fiber (24) having a core layer and a clad layer (though Masahiro doesn't specify the clad and core, without a clad and core layer, the optical fiber would not function);

A protective layer (22 and 25) coated on a surface of the optical fiber (see figure 4);

A protrusion (23) made of polymer resin (detailed description, paragraph [0008] discloses polyethylene, a polymer resin) formed on an outer surface of the protective layer in a banded shape.

**With respect to claim 4, Masahiro teaches:**

Wherein the protrusion has a spiral pattern (see figure 2).

**With respect to claim 6, Masahiro teaches:**

Wherein the protective layer (22 and 25) included a buffer layer (25) surround at least one optical fiber and a sheath (22) surrounding the buffer layer (25).

**With respect to claim 10, Masahiro teaches:**

Wherein the protrusion (23) is made of the same material of the protective layer (see figure 4, the protrusion is made as part of the protective layer).

**With respect to claim 11, Masahiro teaches:**

Wherein the optical fiber includes a multi-core ribbon-type optical fiber (paragraph [0023] suggests using tape slot mold fiber optic cables, which is a ribbon-type cable), and the protective layer has a circular sectional shape (see figure 4).

12. Claims 1 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sowell, III et al. (US Patent 6,233,384, hereinafter Sowell).

**With respect to claim 1**, Sowell teaches:

An optical fiber (1) having a clad layer and a core layer (though Sowell doesn't specify the clad and core, without a clad and core layer, the optical fiber would not function);

A protective layer (2, 3, 4, 5) coated on a surface of the optical fiber;

And a protrusion (6) made of polymer resin (polyurethane, column 3, line 17) and formed on an outer surface of the protective layer in a banded shape (see figure 1).

**With respect to claims 6-9**, Sowell teaches:

Wherein the protective layer (2, 3, 4, 5) includes a buffer layer (2, 3) surrounding at least one optical fiber, and a sheath (5) surrounding the buffer layer (2,3).

An intermediate layer (4) provided between the buffer layer (2,3) and the sheath (5) in order to damp external impact.

The buffer layer (2,3) are made of expanded polytetrafluoroethylene which has the lowest Young's Modulus of the three layers;

The intermediate layer (4) can be made of phosphor bronze which has a Young's Modulus higher than the expanded polytetrafluoroethylene, but lower than the sheath



Art Unit: 2874

(5) which can be made of stainless steel wires (column 2, lines 40-46, column 2, lines 60-63 and column 3, lines 3-8).

13. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (US Patent 4,997,256, hereinafter Sano).

**With respect to claim 17, Sano teaches:**

Forming a protrusion (33) having a banded shape on an outer surface of at least one optical fiber (31) having a core layer and a clad layer (though Sano doesn't specify the clad and core, without a clad and core layer, the optical fiber would not function) by supplying polymer resin (polypropylene) through a nozzle (the polymer resin has to come from somewhere, and anything it comes out of can be considered a nozzle) onto the outer surface of the optical fiber (31) while moving the optical fiber along a longitudinal direction thereof (the optical fiber is moved along a longitudinal direction because the sheath is extruded onto the fiber (column 4, lines 41-48)).

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2874

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US Patent 4,997,256, hereinafter Sano) in view of Masahiro (JP2001021781, hereinafter Masahiro).

Sano teaches the limitations of claim 17 as previously stated.

Sano does not teach the protrusion is formed in a spiral, waved or sine-waved pattern by rotating the nozzle around the optical fiber or rotating the optical fiber.

Masahiro teaches the spiral shaped protrusions (23) for use on an air blown fiber.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the spiral protrusions of Masahiro in the air blown fiber of Sano because the spiral shape generates air resistance that is uniform which eliminates the "phenomenon that obstructs the conveyance of the optical fiber cable due to air resistance in only one direction" (Abstract).

17. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US Patent 4,997,256, hereinafter Sano) in view of Pasch et al. (US Patent 6,404,972, hereinafter Pasch).

Sano teaches the limitations of claim 17 as previously stated.

Sano does not teach that the protrusion is formed discontinuously by supplying the polymer resin on the outer surface discontinuously.

Pasch teaches polymer resin bands (5) on the surface of an optical fiber cable for the benefit of color coding the fibers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of the Pasch patent and supply resin discontinuously on the surface of the optical fiber cable in order to form color coding bands that allow keeping specific fibers separated during splicing or connecting operations (column 1, lines 11-13).

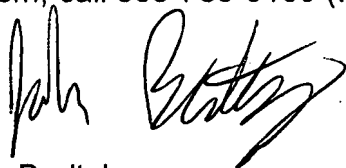
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Bedtelyon whose telephone number is 571-270-1290. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John Bedtelyon



**KEVIN WOOD**  
**PRIMARY PATENT EXAMINER**